

Work Order ID 157554

Tuesday, April 18, 2017 2:17:23 PM

157554

Page 1

Item ID: D350-578-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AS350/AS355 Bearpaws
Start Date: 4/19/2017 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 4/21/2017 Req'd Qty: 8.00 ***8*** Customer:
Reference: (P.A.)SCHEUDLED/U

Approvals: Process Plan: DAS 21 9-89 Date: APR 18 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D350-578	H								

100 Document Control
100 DOCUMENT CONTROL
DC Memo 0.00
Doc.Control -USB or Paperwork Photocopy bluefile and create labels per PPP D350-578-011 CHG006

8 DAS 28 9-89 JUN 09 2017

160 Pick Kit 0.00
160
Packaging Memo 0.00
Packaging

8 DAS 6 9-89 JUN 09 2017 DAS 27 9-89

170 QC4- 100% Inspect kits for completeness 0.00
170
QC Memo 0.24
Quality Control

8 DAS 28 9-89 JUN 09 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____									

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. COOR. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

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Page 1

Work Order ID: 157554

157554

Parent Item: D350-578-011

D350-578-011

Parent Item Name: AS350/AS355 Bearpaws

Start Date: 4/19/2017

Required Date: 4/21/2017

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:A New Issue 07-01-02 JLM
IPP Rev:B 08-01-09 Added Step 2 JLM Verified By:EC
IPP Rev:C 08-10-15 New Manufacturing Method JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2432		Manufactured	No			160	Each	6.0000	2	16			
D2432									**				
Bearpaw 19" X 24"													

Location	Loc Qty	Loc Code
----------	---------	----------

FG015	5	
157578	5	
ST430A	1	
155067	1	

D2529		Manufactured	No			160	Each	270.0000	12	96			
D2529									**				
Washer													

Location	Loc Qty	Loc Code
----------	---------	----------

ST008	270	
155073	170	
157443	100	

D3601-1		Manufactured	No			160	Each	334.0000	12	96			
D3601-1									**				
Radius Block													

Location	Loc Qty	Loc Code
----------	---------	----------

ST045	334	
155087	129	
156511	205	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 157554

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Parent Item: D350-578-011

D350-578-011

Parent Item Name: AS350/AS355 Bearpaws

Start Date: 4/19/2017

Required Date: 4/21/2017

Start Qty: 8.00

Required Qty: 8.00

D4011-1
D4011-1
Clamp, Short

Manufactured No

160 Each 54.0000 6 48

**

DAS 6 9-89 JUN 09 2017 DAS 27 9-89

Location

Loc Qty

Loc Code

ST544

54

155088

30

155917

24

D4012-1
D4012-1
Cushion

Manufactured No

160 Each 464.0000 6 48

**

DAS 6 9-89 JUN 09 2017 DAS 27 9-89

Location

Loc Qty

Loc Code

FG

5

133458

5

ST545

59

153227

59

ST546A

400

153227

400

AN4-16A
AN4-16A
Bolt

Purchased No

160 Each 149.0000 12 96

**

DAS 6 9-89 JUN 09 2017 DAS 27 9-89

Location

Loc Qty

Loc Code

FG

5

121541

5

over003

100

M136986

100

ST343

44

M136740

44

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Shop Packet Print

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

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Work Order ID: 157554

157554

Parent Item: D350-578-011

D350-578-011

Parent Item Name: AS350/AS355 Bearpaws

Start Date: 4/19/2017

Required Date: 4/21/2017

Start Qty: 8.00

Required Qty: 8.00

NAS1149D0463J

Purchased

No

160

Each

1,288.000

24

192

NAS1149D0463.I

**

Washer

Location

Loc Qty

Loc Code

GA

48

M135056

48

ST263

1240

M136983

640

M137166

600

137544

DAS
6
9-89

JUN 09 2017 DAS
27
9-89

MS21042L4

Purchased

No

160

Each

843.0000

12

96

MS21042I 4

**

Nut

Location

Loc Qty

Loc Code

FP001

10

m133363

10

GA

154

m135058

154

ST303

679

m136986

179

m137166

500

137371

DAS
6
9-89

JUN 09 2017 DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____									

REFERENCE ONLY

5.0 PARTS LIST

5.1 D350-578-011/-013/-015/-017/-021 BEARPAW INSTALLATION

Qty -011	Qty -013	Qty -015	Qty -017	Qty -021	Qty -031	Part Number	Description
X						D350-578-011	BEARPAW INSTALLATION
	X					D350-578-013	BEARPAW INSTALLATION
		X				D350-578-015	BEARPAW INSTALLATION
			X			D350-578-017	BEARPAW INSTALLATION
				X		D350-578-021	BEARPAW INSTALLATION
					X	D350-578-031	WEARPLATE KIT
2						D2432F	Bearpaw
		2				D2432-3	Bearpaw
12	12	12	12	12		D2529	Washer
				2		D2672F	Bearpaw
12	12	12	12	12		D3601-1	Radius Block (Replaces D2274)
					2	D3859-041	Wearplate
6	6	6	6	6		D4011-1	Clamp (Replaces D2438)
6	6	6	6	6		D4012-1	Cushion (Replaces D2182B050)
	2					D4297-1	Bearpaw
			2			D4297-3	Bearpaw
12	12			12	12	AN4-16A	Bolt
		12	12		12	AN4-17A	Bolt
24	24	24	24	24	24	NAS1149D0463J	Washer
12	12	12	12	12	12	MS21042L4	Nut (or MS21042-4)

5.2 D350-578-111/-113/-115/-117/-121 BEARPAW INSTALLATION

Qty -111	Qty -113	Qty -115	Qty -117	Qty -121	Part Number	Description
X					D350-578-111	BEARPAW INSTALLATION
	X				D350-578-113	BEARPAW INSTALLATION
		X			D350-578-115	BEARPAW INSTALLATION
			X		D350-578-117	BEARPAW INSTALLATION
				X	D350-578-121	BEARPAW INSTALLATION
1					D350-578-011	Bearpaw Installation
	1				D350-578-013	Bearpaw Installation
		1			D350-578-015	Bearpaw Installation
			1		D350-578-017	Bearpaw Installation
				1	D350-578-021	Bearpaw Installation
1	1	1	1	1	D350-578-031	Wearplate Kit

Work Order ID 157554

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Item ID: D350-578-011 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: AS350/AS355 Bearpaws
 Start Date: 4/19/2017 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 4/21/2017 Req'd Qty: 8.00 ***8*** Customer:
 Reference: (P.A.)SCHEUDLED/U

Approvals: Process Plan: _____ Date: APR 18 2017 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D350-578	H	JUN 01 2017							
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and create labels per PPP D350-578-011 CHG006								
160	Pick Kit	0.00							
160									
Packaging	Memo	0.00							
Packaging									
170	QC4- 100% Inspect kits for completeness	0.00							
170									
QC	Memo	0.24							
Quality Control									

CB

8

JUN 05 2017



Department of Transport

Supplemental Type Certificate

This approval is issued to:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ontario
Canada K6A 1K7

Number: SH93-4

Issue No.: 10

Approval Date: March 30, 1993

Issue Date: March 09, 2015

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

Airbus Helicopters AS 350 B, B1, B2, B3, BA, D; AS 355 E, F, F1, F2, N, NP; EC 130 B4 and T2.

Canadian Type Certificate or Equivalent:

H-87 (Airbus Helicopters AS 355 E, F, F1, F2, N, NP)
H-83 (Airbus helicopters AS 350 B, B1, B2, B3, BA, D; EC 130 B4 and T2)

Description of Type Design Change:

Bearpaw Installation

AS 350/355 models

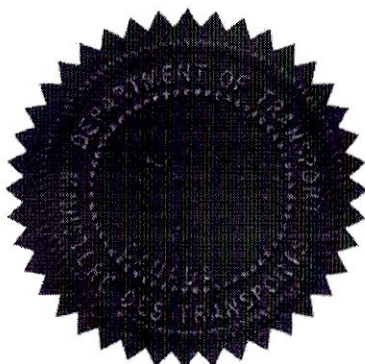
Manufacture of the bearpaw kits must be in accordance with Dart Aerospace Ltd. MDL-D350-578, Revision A, dated Jun 11th, 2010 or later approved revision.

Installation of the bearpaw kits must be in accordance with Dart Aerospace Ltd. Drawing D350-578, Revision F, dated Aug 28th, 2008 or later approved revision.

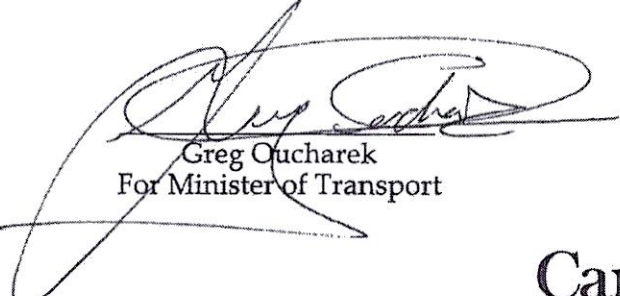
Maintenance of the bearpaw kits must be in accordance with Transport Canada accepted Dart Aerospace Ltd. ICA-D350-578, Revision 1, dated Aug 28th, 2008 or later Transport Canada accepted revision.

The basis of certification for this modification was FAR 27, up to and including Amendment 27-23.

- See Continuation Sheet -



Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.


Greg Oucharek
For Minister of Transport

Canada